

WHAT IS CLAIMED IS:

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1. A carbon material for an electric double layer capacitor, comprising:

crystallites of graphite-like carbon produced by activating a carbon material, said crystallites having 5 interlayer distances of 0.365 to 0.385 nm.

2. A method of producing a carbon material for an electric double layer capacitor, comprising the steps of:

heat treating a raw material to carbonize it and 5 to grow crystallites of graphite-like carbon; and

activating the grown carbon material with an alkali, whereby producing a carbon material consisting of crystallites of carbon having interlayer distances of 0.365 to 0.385 nm.

3. A method of producing a carbon material for an electric double layer capacitor, comprising the step of:

activating a carbon material with steam to produce a carbon material comprising crystallites of 5 graphite-like carbon having interlayer distances of 0.365 to 0.385 nm.

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4. An electric double layer capacitor having polarized plates immersed in an organic electrolyte, said electric double layer capacitor comprising:

said polarized plates being made of a carbon 5 material comprising crystallites of graphite-like carbon produced by activating a carbon material, said crystallites having interlayer distances of 0.365 to 0.385 nm.

5. The electric double layer capacitor of claim 4, wherein said organic electrolyte has a solute consisting of tetrafluoroborate.

6. The electric double layer capacitor of claim 4, wherein said organic electrolyte has a solute consisting of tetraethylammonium tetrafluoroborate.

7. A method of fabricating an electric double layer capacitor having polarized plates immersed in an organic electrolyte, said method comprising the steps of:

5 activating a carbon material to produce crystallites of graphite-like carbon, said crystallites having interlayer distances of 0.365 to 0.385 nm;

assembling said electric double layer capacitor having a rated voltage, using said crystallites;

then applying a voltage in excess of said rated 10 voltage across said polarized plates so that the capacitor exhibits a capacitance.

8. An electric double layer capacitor comprising:

polarized plates made of a carbonaceous material that expands on application of a voltage; and

5 a dimension-limiting structure in which said polarized plates are mounted such that expansion of the plates is limited by said dimension-limiting structure on application of the voltage.

9. The electric double layer capacitor of claim 8, wherein said dimension-limiting structure limits expansion of the plates in the direction of application of the voltage when the voltage is applied.

10. The electric double layer capacitor of claim 8, wherein an expansion pressure of more than 2 kg/cm² is produced on the plates when dimensions are limited against expansion of the polarized plates.

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11. An electric double layer capacitor comprising:
an electrolyte consisting of a nonaqueous solvent;
5 polarized plates made of a carbon material having interlayer distances d_{002} of 0.365 to 0.385 nm; and
a dimension-limiting structure in which said electrolyte and said plates are held, said dimension-limiting structure acting to limit expansion on application
10 of a voltage.

12. The electric double layer capacitor of any one of claims 8-11, wherein said carbonaceous material is obtained by preheating petroleum coke, mixing the coke into potassium hydroxide to produce a mixture, and heat treating 5 the mixture in an inert ambient.

13. The electric ~~double~~ layer capacitor of any one of claims 8-11, wherein said carbonaceous material is obtained by heat-treating coconut char in an inert ambient or in an ambient-containing steam.

14. The electric double layer capacitor of any one of claims 8-11, wherein said capacitor is charged at a voltage higher than the rated voltage of the capacitor during initial charging.